

EASY SCIENCE STUDIES FOR FARMERS.

XVI.—Soils: Mechanical Varieties.

According to their mechanical compositions soils range from gravel, where the particles are the coarsest, to gravelly loam, sandy, fine sand, sandy loam, fine loam, loam, shale loam, silt loam, clay loam, clay, adobe, meadow, winding up with the opposite extreme—muck and swamp, where the particles are finest and most compact.

From an agricultural viewpoint the best varieties in this list are found half way between the dangerous extremes, in the loam, which are open and friable, yet contain sufficient particles small enough to retain moisture and to become dissolved by the root sap of plants, thus rendering the soil food available. Food can be taken up by the roots of plants only when it is in solution, or in a condition capable of being dissolved by contact with the acid sap of the root hairs. Matter which is in neither of these conditions is useless to the plant, though it may afterwards become available through the chemical actions of the soil. Most ingredients in average soils are in an insoluble condition. This idea of solubility is well illustrated by dropping a pinch of salt in a glass of water. The salt disappears—the water “dissolved” it, and only when plant food is in this “watery” condition can it be used by plants. If the water in the glass evaporates, the mineral salt is precipitated in its original white crystalline form.

Gravelly soil is very undesirable, as the particles are so large, it will not hold water, and being large, air circulates freely to a considerable depth, thus drying out rapidly; and while in most gravelly soils there may be a small quantity of material fine enough for plant food, it is usually too small to be of much account. Sandy soils have the same drawbacks in a less degree. A clay or muck soil is objectionable for quite opposite reasons. The particles are so fine that these soils do not dry out readily and are heavy and untillable. Muck, swamp and meadow soils often contain large quantities of plant food and only need drainage to render them rich and fertile.

A mixture of the extremes is productive of good results, the objectionable features of each thus neutralizing each other. Indeed “loam,” which is the ideal soil for most farm crops, means “mixed clay and sand.” A clay soil is a common type in the Mississippi Valley, and is generally considered poor. This is only because its riches are locked up. The truth is clay contributes the plant food in the partnership with sand, while sand merely breaks up the peculiar cement which holds clay so compactly.

In cultivating a sandy soil, humus in the shape of barnyard manure or the addition of muck will be found to greatly enhance its fertility.

It is a good thing for a farmer

to get acquainted with his soil. Study it closely. Examine it under a magnifying glass. Sift it through a sieve and analyze it. Get a chemical analysis of it, if possible. Give it the special treatment that it calls for. You will probably find several kinds of soil on one small farm and often in one field. The knack of getting the most out of this raw material by studying its peculiarities and applying a knowledge of general principles for a definite purpose, is the art of farming. The first duty of an artist is to get acquainted with the material he expects to work with.—H. A. Bereman, in Colman's Rural World.

High Prices Surely Coming.

The farmers of the South have presented to them by the disasters of the Western floods an opportunity that should by no means be neglected.

Four of the largest wheat and corn producing States of the West have been damaged in their crop prospects for the present year by one-half or more, and it is plainly to be seen that there must be a shortage of food-stuffs in consequence. Sheep, cattle and horses have been destroyed in large numbers, and the effect must be to reduce labor and other productive returns from the farms. Prices of food and their related interests in the beef, pork and mutton markets are sure to be much higher in the future than in the past season. Corn is more likely to sell for over than under a dollar per bushel. And the Southern farmers who have become accustomed to find their bread and meat in Western markets will be called upon to recoup present losses to those peoples by higher prices for food-stuffs.

It is not too late yet for Southern farmers to fortify against that manifest State affairs. Every one of them can devote a part of his land and labor to raising corn and peas and thus supply himself with substitutes for his usual Western supplies.

It is yet possible anywhere in the South to plant and raise crops of the kind mentioned and those who are wise will lose no time in taking this warning to himself and preparing to meet the general rise in the price of provisions by having an ample home-raised stock of food in his own crib and smoke-house.

These are the apparent facts that confront us and the Constitution feels it a duty to the farmers of Georgia and the South to follow the sensible course we have indicated. A year of high prices for farm products is coming and it will take all the wisdom and industry of a Joseph to prepare a store that will defy inflated prices, short supplies and produce manipulators of the people's bread.—Atlanta Constitution.

In but one year during the last two decades has cotton reached a higher price than at present, and at that time the cotton crop was insignificant compared with the present one.

The Mistake in Summer Feeding.

Editor of The Progressive Farmer:

The most economical summer food is forage crops, but it is not possible to obtain the best results from these without adding to the daily ration some food in the shape of grain. The mistake commonly made in summer feeding is to depend entirely or too largely upon the forage crops. Even when good soiling crops are obtained to carry us over the season of poor pasturage it does not pay to depend entirely upon these. The cows need also some grain, and this should be fed daily and in proper ratio to other foods. Cows fed mostly on the soiling crops do not produce satisfactory amounts of milk, nor do they appear to gain or even hold their own in flesh. The result is the blame in many cases is thrown entirely upon the soiling crops, and they are pronounced a failure. These crops were never intended to furnish a complete ration. Not even though we have a variety of common forage crops, corn fodder, timothy hay, millet and sorghum, should we expect the cows to do well on them without their grain. We might just as well expect a man to thrive in summer on fruits and vegetables, with no meat, milk or grains.

I speak of this mistake because it is so often responsible for the success of soiling crop feeding. There are ingredients in grain food which are lacking in all the forage crops, and the animals must suffer if they do not have a good proportion of these food necessities. When we consider that the food of animals must go to form flesh, fat, milk, hair, horns, tissues, ligaments and bones, we may well conclude that a great variety of food must be essential to their proper development. After all the succulent summer food goes largely to increase the milk flow. It furnishes in the greatest abundance those ingredients which can be quickly and easily converted into milk and casein. But this food hardly supplies any material for making bone, muscle, ligaments and lean meat. These must grow and mature in summer, however, just as much as at any other season of the year, and if their development is checked the milk flow must in time suffer. This indirect action of food is sometimes more disastrous than an immediate change, for when the animal becomes weakened and run down from lack of proper food it takes considerable time to build her up again. We can withhold grass and green fodder from the cow and dry the milk up immediately, but this is only temporary in action. Feed them again with a well balanced ration, with plenty of succulent food, and within a few days the milk yield will be restored. But run down a cow physically by withholding proper food, and it will take weeks and maybe months to restore her so that she will give a normal supply of milk again.

A. B. BARRETT.

The future destiny of the child is always the work of the mother.—Napoleon.

Clover in Corn.

Editor of The Progressive Farmer:

How would clover do sowed the last plowing of late corn for a winter and spring pasture for hogs? What kind would be best? Land is stiff and red. Please answer through The Progressive Farmer.

N. P.

Harnett Co., N. C.

(Answered by W. F. Massey, Horticulturist N. C. Agricultural Experiment Station.)

In reply to your correspondent, N. P., I would say that one of the best crops of clover I ever grew was sown in July among corn. Since then, on moist bottom land in Virginia, I have uniformly had good crops of clover sown among corn.

I think that if the seeds are sown at the last working, while the land is still fresh so that the seed will be covered by the first rain, the sowing will usually be a success. The clover to which I refer in my own experience was the ordinary red clover, but the common crimson clover might do nearly as well, though July is rather early for sowing this in our climate. Still if you want it for a winter pasture, the crimson clover will probably be the best, and if you can get a stand of it by early sowing, you will certainly have a better winter growth. The common red clover will hardly make much of a winter pasture.

It is said that a small green bug has made its appearance in the Texas cotton fields and the coming of this bug has been followed by the departure of the weevil. The bug does not attack the cotton, but subsists entirely on the boll weevil and it appears to have a healthy appetite, clearing a field of the weevil in a very short time. Where the bug came from no one seems to know, and this point is immaterial. Since it has begun business the Government can give its special crops of entomologists to solve the weevil question in a thoroughly practical manner and at no expense to the country.—Charlotte Observer.

After the small grain crops have been harvested, and when not seeded in grass or clover, run over the stubble with a disc harrow and sow either cow-peas or crimson clover or sipping clover or rape, with some wheat or oats mixed with these, and thus find the land something better to do than grow a crop of weeds, which only impoverish the land and make no contribution towards carrying the live stock of the farm or even furnish more than the very smallest quantity of vegetable matter for making humus. It is of vital importance to the maintenance and enhancement of the fertility of land in the South that some crop should be kept on the land at all times. Naked land becomes reduced in fertility faster than when growing a crop.—Exchange.

Both man and womankind belie their nature when they are not kind.—Bailey.